

**TRANSFECTION, STORAGE AND TRANSFER OF MALE GERM CELLS FOR
GENERATION OF TRANSGENIC SPECIES & GENETIC THERAPIES**

ABSTRACT OF THE DISCLOSURE

A composition for in vivo transfection of vertebrate male germ cells comprises a nucleic acid or transgene, and a gene delivery system, and optionally a protective internalizing agent, such as an endosomal lytic agent, a virus or a viral component, which is internalized by cells along with the transgene and which enhances gene transfer through the cytoplasm to the nucleus of the male germ cell. A pharmaceutical preparation and a transfer kit utilize the composition. A method for introducing a polynucleotide into vertebrate male germ cells comprises the administration of the composition to a vertebrate. A method for isolating or selecting transfected cells utilizes a reporter gene, and a method for administering transfected male germ cells utilizes male germ cells which have been transfected in vitro.